Indoor Tanning Appears to Quadruple Risk of Melanoma

**Major Finding:** Overall, 63% of individuals with melanoma and 51% of controls reported any indoor tanning.

**Data Source:** A population-based, case-control study of 1,167 melanoma cases and 1,101 controls.

**Disclosures:** None of the study authors stated that they had any conflicts of interest. The study was supported in part by a grant from the American Cancer Society and the National Cancer Institute.


DeAnn Lazovich, Ph.D., of the University of Minnesota, Minneapolis, and colleagues began the Skin Health Study in 2004 in Minnesota, a state with a documented high rate of indoor tanning.

The data collected by the researchers included skin, hair, and eye color; presence of moles and freckles; lifetime routine sun exposure; age at which tanning beds were first used; duration and frequency of indoor tanning; and type of tanning device used. Overall, 63% of individuals with melanoma and 51% of controls reported any indoor tanning.

Melanoma risk increased significantly (P < .0001). The one-year survival rate was nearly twice as high in the melanoma arms (46% vs. 25%), as was the two-year rate (24% vs. 14%). Some long-term survivors continue to be followed 4.5 years after treatment.

Disease-control rates were also significantly higher in the two melanoma arms (28.3% with ipilimumab alone and 20.1% with ipilimumab plus vaccine vs. 11% with the vaccine alone). Best overall response rates likewise were higher (10.9% and 5.7%, respectively, vs. 1.5%). Addition of the GP 100 peptide vaccine did not appear to improve outcomes, Dr. O’Day noted. The investigators chose it for the control arm because it had drawn responses in a previous trial, and there is no standard of care for these patients.

Dacarbazine (DTIC) has long and often been used, but no randomized trial has ever proven it superior to best supportive care.

Disclosures included that the research funding was provided by Medarex and Bristol-Myers Squibb, which is developing ipilimumab.

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In 2009, the International Agency for Research on Cancer classified tanning beds as carcinogenic to humans.

In 2010, a Food and Drug Administration advisory panel recommended tighter restrictions on the use of indoor tanning devices. However, the agency has yet to issue any guidelines based on these recommendations.

The findings address several limitations of previous investigations on this topic, including the ability to control for confounding variables such as sun exposure, the investigators noted.